SAN FRANCISCO BAY AREA NETWORK
FY02 Annual Report and FY03 Work Plan
Water Quality Monitoring

(excerpt from SFAN I&M Report)

C. Water Quality Monitoring

Many of the park units within the Network have completed some level of land use assessment and water quality monitoring. Since three water bodies in the network are currently listed as impaired waters, continued monitoring (before the long-term monitoring plan is developed) is crucial. Developing a long-term water quality monitoring plan will be a critical step in reducing impairment and guiding management decisions within the parks. In 2001, the SFAN water resources professionals developed a workplan for a Network Water Quality Specialist to be hired in FY02. The water quality specialist will be responsible for developing the SFAN Water Quality Monitoring Plan, integrating it with the overall VSM Plan, and coordinating existing monitoring efforts.

Objective 9 - Coordinate development and approval of a long-term water quality monitoring program for the SFAN.

Task 9.1 – Hire a water quality specialist to coordinate with the Water Resources Division and develop the network water quality monitoring plan

FY02 Accomplishments:

- A Network water quality specialist was hired in late July FY02.
- The water quality specialist initiated an intensive review of park water resources in order to obtain an understanding of the watersheds within the network. This review provided a foundation for developing the introduction and background for Phase I of the water quality monitoring plan.
- Data was gathered through field reconnaissance to each park and informal discussions with park natural resources staff.
- In addition, a review of numerous scientific and guidance documents from the State Water Resources Control Board, NPS, EPA, and others was conducted.

Scheduled FY03 Activities and Products:

- The Water Quality Specialist will attend the WRD Water Resources Professionals meeting in November. This will provide an opportunity to gain additional guidance and share ideas related to developing a long-term water quality monitoring program.

Task 9.2 – Document existing water resource designations for parks within the network

FY02 Accomplishments:

- Information on the beneficial uses of streams within network parks was obtained by reviewing the Regional Water Quality Control Board Basin Plan.
- Network water bodies listed as impaired (Section 303d list) were identified.
- Information was gathered on Outstanding Natural Resource Waters and Areas of Special Biological Significance (state designation).

Scheduled FY03 Activities and Products:

- Continue documenting water resource designations and provide input to state agencies regarding these designations.
- Map existing designated beneficial uses, impaired waters, and ASBS.

Task 9.3 – Conduct data mining and determine the status of historic and existing water quality monitoring data.

FY 02 Accomplishments:

- In FY01 the aquatic professionals group contracted with a UC Berkeley professor to have a graduate student analyze existing data (PINN, GOGA, PORE). The student has been tasked to assist (through data mining and literature review) in answering specific questions related to water quality indicators and monitoring protocols.
- An inventory of existing park water quality data (gathered by NPS and other agencies) was initiated in order to gain knowledge of data characteristics such as timing and location of monitoring, parameters monitored, data storage techniques, etc. A large amount of data from several years, for several parameters and locations exists for these parks. A biotechnician was hired to assist in the data mining.

Scheduled FY03 Activities:

- The Water Resources Division Baseline Water Quality Data Inventory and Analysis reports will be reviewed for JOMU and EUON and for PORE, PINN, and GOGA as they are received.
- Coordination with the UC Berkeley graduate student will continue and a report is anticipated in the spring.
- An inventory of existing park data will be completed.

Task 9.4 – Meet with resource managers that are involved in maintaining water resources within the SFAN parks.

FY02 Accomplishments:

- Members of the SFAN aquatic professionals group met with the San Francisco Bay Regional Water Quality Control Board, the Shellfish Technical Advisory Committee, and Tomales Bay Watershed Council to discuss impairment issues in watersheds within PORE and GOGA.

Scheduled FY03 Activities:

- Continue discussions with Regional Board staff to determine how to reduce impairment (participate in the TMDL development process) and to coordinate monitoring efforts.
- Hold scoping meetings at each park (to be attended by park staff, watershed councils, regional board representatives, and potentially other stakeholders). These meetings will provide a forum for discussing water quality issues and understanding park management objectives. The meetings will produce lists of priority water bodies and pollutants to be monitored.
- Internal scoping will be divided into five meetings including EUON/JOMU, GOGA/MUWO, PRES, PINN, and PORE.
- Coordinate external scoping meeting for technical review of water quality monitoring plan development. This will be later in FY03 after a thorough review of existing data and protocols has produced questions requiring greater technical expertise. This could involve WRD staff, local University staff, and other state and Federal agencies (USGS, etc.).

Task 9.5-- Synthesize existing water quality monitoring data for each park unit and determine the utility of the data.

Scheduled FY03 Activities:

- Begin analyzing existing water quality data (GOGA, PINN, PORE). The goal of this task is to determine whether there are data gaps, extraneous data, ineffective or uncertain protocols, or other impediments to monitoring. Another goal is to determine whether or not the data can be utilized to answer management questions.

Task 9.6 - Assist with coordination of spatial data management

Scheduled FY03 Activities:

- Assist with establishment of the SFAN water quality monitoring database.
- Facilitate acquisition and compilation of accurate metadata.
- Help ensure database compatibility with the EPA STORET database.
- Coordinate with WRD database management staff.

Task 9.7 – Synthesize existing weather information for each park unit

Scheduled FY03 Activities:

- Coordinate with the network data manager on weather data mining activities and database development.

Objective 10 - Establish and maintain long-term meteorologic and hydrologic monitoring sites

Task 10.1- Install and maintain full weather stations, water level monitors, and sediment monitoring stations

FY02 Accomplishments:

- Existing hydrologic stations were maintained at PORE and GOGA.
- Existing weather stations were maintained at PORE and PINN.
- A cooperative agreement with Graham Matthews & Associates for technical assistance in Turbidity Threshold Sampling was completed.

Scheduled FY03 Activities:

- A water level monitor will be installed at JOMU. This is one of the smaller parks in the network and has had no previous monitoring within the park boundaries. Installing a stream gauge is the first step in establishing a long-term water quality monitoring station.
- Weather stations will be installed at EUON, JOMU, GOGA, and PORE. These stations will monitor temperature, humidity, wind speed and direction, and rainfall. This data could be useful to the entire Vital Signs Monitoring program in identifying trends related to water and habitat availability, distribution of flora and fauna, flooding, fire, and many other natural processes.
- A Turbidity Threshold Sampling unit will be installed at PORE. Two water bodies at PORE are listed as impaired by sediment. Turbidity threshold sampling will be useful in monitoring sediment pollution more accurately and effectively and potentially aiding in sediment reduction in these impaired watersheds.
- Training will be received for installation and implementation of Turbidity Threshold Stations (Graham Matthews & Associates). The USFS approved technique (developed by Redwood Sciences Laboratory and utilized at Redwood National Park) will be followed.

Objective 11 - Support existing park water quality monitoring programs and integrate with the VSM Plan

Task 11.1 Quarterly sampling at SFAN parks that have on-going monitoring.

FY02 Accomplishments:

- Park staff continued sampling at PORE ,GOGA, and PINN water quality stations.
- A Water Quality Monitoring Report was produced by PORE.
- A draft report was produced for water quality monitoring at GOGA stables.

Scheduled FY03 Activities:

- Continue quarterly and storm-event related sampling at PORE,
- Sample winter storm events at PINN, and
- Sample for project specific needs (if necessary) at GOGA.
- Obtain initial observations of storm events and watershed responses at JOMU, PRES, and EUON.